

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

1-6. (Canceled)

7. (Currently amended) ~~The method according to claim 6;~~ A method for performing services by a mobile phone, the method comprising:

providing a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive a short-distance wireless message transmitted by a blue tooth marker module set for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records;

wherein said area may be a single-marker area marked by a single marker module, or a multi-marker union area or a multi-marker intersection area marked by a plurality of marker modules;

wherein, as for any one of the entry trigger records, said mobile phone may work in the single-marker area mode or in the multi-marker union area mode;

wherein in the single-marker area mode, as for any marker module matching the trigger record, the first time the mobile phone receives the marking information transmitted from the marker

module, it determines that it has entered the single-marker area, and then performs a corresponding entry trigger service; and

wherein in the multi-marker union area mode, as for all marker modules matching the trigger record, the first time the mobile phone receives the marking information transmitted from any one of the marker modules, it determines that it has entered the multi-marker union area, and then performs the corresponding entry trigger service.

8. (Currently amended) The method according to claim 6, 7 wherein, as for any stay trigger record, said mobile phone may work in the single-marker area mode or multi-marker union area mode;

when said mobile phone works in the multi-marker union area mode, as for all marker modules matching the trigger record, if said mobile phone receives the marking information transmitted from any marker module during a preset time period, the mobile phone then determines that it has remained in the multi-marker union area;

as for repeat trigger service, if said mobile phone remains in the multi-marker union area, the mobile phone performs repeatedly the repeat trigger service at preset time intervals;

as for time trigger service, if said mobile phone remains in the multi-marker union area, the mobile phone performs the time trigger service at a preset time.

9. (Currently amended) ~~The method according to claim 6,~~ A method for performing services by a mobile phone, the method comprising:

providing a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive a short-distance wireless message transmitted by a blue tooth marker module set for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records;

wherein said area may be a single-marker area marked by a single marker module, or a multi-marker union area or a multi-marker intersection area marked by a plurality of marker modules;

wherein said marking information comprises Electronics Serial Number (ESN) and Group Number (GroupNo) of the marker module, Object Class (ObjClass), Object Number (ObjNum) and Object Name (ObjName) of the marked object, and three-dimensional coordinate offsets from the marker module to the marked object.

10. (Previously presented) The method according to claim 9, wherein,

said entry trigger record comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger mode (TriggerMode);

said exit trigger record comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger mode (TriggerMode);

said repeat trigger record comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, time interval (Interval) and trigger services; and

said time trigger record comprises Electronics Serial Number (ESN) matching code and Group Number (GroupNo) of the marker module, Object Class (ObjClass) of the marked object, trigger services and trigger time.

11. (Canceled)

12. (Previously presented) The method according to claim 10, wherein said trigger records comprise a trigger-permission time limit for triggering a certain service; when performing the entry trigger service, exit trigger service or stay trigger service, the mobile phone determines whether the present time is in the trigger-permission time limit and if so, it performs the corresponding service, and otherwise, it doesn't perform.

13. (Previously presented) The method according to claim 12, wherein said trigger records further comprises a trigger-prohibition time limit for triggering certain service; when performing the entry trigger service, exit trigger service or stay trigger service, the mobile phone determining whether the present time is in the trigger-forbidden time limit and if so, it doesn't perform the corresponding service, otherwise, performing the service.

14. (Canceled)

15. (Currently amended) ~~The method according to claim 14,~~ A method for performing services by a mobile phone, the method comprising:

providing a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive a short-distance wireless message transmitted by a blue tooth marker module set for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records;

wherein, after receiving the marking information transmitted from any marker module via its identifier module, if said mobile phone detects that the marker module is a new one, then executing authentication on the new marker module; if the new marker module passes authentication, the mobile phone further determining whether to trigger corresponding service, otherwise, deeming the marker module is invalid;

wherein said authentication comprises:

in accordance with the marking information of a newly detected marker module received by its identifier module, sending by the mobile phone of its ID information and a random number to the marker module and generating a first encryption number based on said random number and its stored security key;

based on received ID information of the mobile phone, the marker module searching for a corresponding security key; if successful, generating a second encryption number based on the security key and the random number and transmitting it to said mobile phone;

the mobile phone comparing the first encryption number with received second encryption number, and if the two are consistent, and then determining that the marker module passes authentication.

16. (Canceled)

17.(Currently amended) ~~The method according to claim 1,~~ A method for performing services by a mobile phone, the method comprising:

providing a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive a short-distance wireless message transmitted by a blue tooth marker module set

for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records;

wherein said marking information comprises Electronics Serial Number (ESN) and Group Number (GroupNo) of the marker module, Object Count (ObjCount) of the marked objects, list comprising Object Class (ObjClass), Object Number (ObjNurn), Object Name (ObjName) of the marked objects, and three-dimensional coordinate offsets.

18.(Canceled).

19. (Currently amended) The method according to claim ~~18~~17, wherein said marker module further comprises an environment-monitoring module for monitoring environmental parameters; said marking information further comprises the environmental parameters detected by the marker module;

wherein said environment-monitoring module can monitor one or many of the environmental temperature, humidity, pollution index, or noise; said environmental parameters may be one or many of the temperature, humidity, pollution index, or noise.

20. (Canceled)

21. (Currently amended) ~~The method according to claim 20;~~ A method for performing services by a mobile phone, the method comprising:

providing a wireless blue tooth identifier module in the mobile phone, wherein said identifier module can receive a short-distance wireless message transmitted by a blue tooth marker module set for a physical object to be marked, said marker module storing marking information of both said marker module itself and the marked object;

storing preset entry trigger records in the mobile phone, wherein said entry trigger records comprise a corresponding relationship between a predefined marking information and a predefined entry trigger service;

retrieving corresponding marking information from the short-distance wireless message received from any one marker module by said identifier module; and

performing the corresponding entry trigger service when the mobile phone determines based on the retrieved marking information that the mobile phone has entered an area marked by said marker module and an entry trigger service corresponding to the retrieved marking information is contained in said entry trigger records;

wherein said marker module broadcasts its essential marking information at preset time intervals, said mobile phone receiving said essential marking information and then sending back a request, said mobile phone then receiving a transmission from said marker module with corresponding detailed marking information based on the sent request;

wherein said essential marking information is the Electronics Serial Number (ESN) of the marker module, and said detailed marking information comprises the marking information of the marker module itself and that of the marked objects.

22-23. (Canceled)

24. (Previously presented) The method according to claim 7, wherein, for every trigger record, said mobile phone may work in the multi-marker intersection area mode; and

when the mobile phone works in the multi-marker intersection area mode, said trigger records at least comprise a marking information list formed by the marking information of the plurality of marker modules, and said marking information list at least comprises the Electronics Serial Numbers (ESN) of the plurality of marker modules.

25-26. (Canceled)

27. (Currently amended) The method according to claim 67, wherein, as for any one of the exit trigger records, said mobile phone may work in the single-marker area mode or in the multi-marker union area mode;

wherein in the single-marker area mode, as for any marker module matching the trigger record, after the mobile phone enters the single-marker area, if it doesn't receive the marking information transmitted from the marker module during a preset time period, the mobile phone determines that it has exited the single-marker area, and then performs a corresponding exit trigger service;

wherein in the multi-marker union area mode, as for all marker modules matching the trigger record, after the mobile phone enters the multi-marker union area if it doesn't receive the marking information transmitted from any one of the marker modules during a preset time period, the mobile phone determines that it has exited the multi-marker area, and then performs the corresponding exit trigger service.